



Healthcare organizations in entrepreneurial ecosystems: an integrative framework and future research agenda

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ABSTRACT

Entrepreneurial ecosystems as lenses promoting innovation and entrepreneurship have attracted substantial interest in research. However attention towards the role of sector-specific actors, such as healthcare-related organizations, within entrepreneurial ecosystems remains underexplored. This paper investigates how healthcare-related organizations are conceptualized within entrepreneurial ecosystem research through an integrative review of the literature addressing EEs and healthcare. The findings show that healthcare entrepreneurs are often portrayed as actors addressing both commercial and public health purposes. Hospitals are perceived as laboratories of collaboration and learning, combining care delivery with innovation-oriented activities, while life sciences are seen as critical to regional innovation and development by attracting scientific knowledge and enabling translation into entrepreneurial opportunities. Institutional and resource dynamics are also perceived as important for healthcare and entrepreneurship ecosystems, through facilitation of resource mobilization and regulatory adaptation. Based on this review, the paper develops a framework that positions healthcare organizations within entrepreneurial ecosystems according to their degree of hybridity and ecosystem roles. This research contributes to EE literature by examining entrepreneurial ecosystems research through a sector-sensitive and relational perspective. The paper offers a framework and research agenda calling for more exploration of institutional complexity, patient-centred innovation, the evolving role of hospitals, and hybrid governance models in entrepreneurial ecosystems.

1. Introduction

Entrepreneurial ecosystems (EEs) have emerged as critical frameworks used both in theory and in policy for understanding environments that can foster innovation and entrepreneurship, or certain types of innovation and entrepreneurship (Brown & Mason, 2017; Poček, 2022; Spigel, 2017), in various geographical contexts (Al-Baimani et al., 2021; Poček, 2020; Pugh et al., 2021; Tsvetkova et al., 2019). Scholars have addressed the possibility that these ecosystems develop spontaneously or emerge through various levels of governance processes (Colombo et al., 2019; Stam, 2015), and they share the notion that for certain types of entrepreneurial development, which support highly innovative and technological ventures, certain actors, resources, and processes of development are normally present (Mason & Brown, 2014). However, because EE theory is deliberately generic (Autio et al., 2018), the

sector-specific institutions and organizations shaping scaling processes are under-theorised with respect to ecosystem dynamics (Stam et al., 2025). How sector-specific actors are positioned and interact within ecosystems, even if the ecosystem itself is not sector-specific, is a question of concern also for this study. In this regard, healthcare-related organizations are central to innovation and commercialization processes (Miller & French, 2016), while healthcare sector entrepreneurship is highly technological and scalable, yet depends on regulatory approval, clinical validation, and organizational coordination for adoption and diffusion (Glover et al., 2024; Tabas et al., 2022). Because many of these entrepreneurial processes are mediated through interactions between entrepreneurs and healthcare organizations (Tabas et al., 2022), the latter become consequential actors in ecosystem dynamics, while their roles remain weakly integrated into mainstream entrepreneurship theories, including entrepreneurial ecosystem theory

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(Miller & French, 2016).

Healthcare-related organizations, defined in this case as actors of the ecosystem whose main purpose is serving the health-related domain, are a useful contextual lens so as to understand sector-level engagement in entrepreneurial ecosystem dynamics. These organizations are embedded in highly regulated institutional dynamics, and they increasingly appear in entrepreneurial ecosystem research as relevant (see, for example, Gai et al., 2024; Giblin et al., 2025; Glover et al., 2024; Leendertse et al., 2025; Tabas et al., 2022). This study builds on the previously listed research by examining how they are represented, positioned, and theorized within the entrepreneurial ecosystem literature (Autio et al., 2018; Stam et al., 2025).

The healthcare-related organizational category is theoretically relevant for entrepreneurial ecosystem research for three reasons. First, healthcare organizations operate under forms of institutional logics that differ substantially from the contexts in which EE theory was originally developed, for example, those related to predominantly market-driven dynamics and the need for less regulatory intervention (for example, see Isenberg, 2011, pp. 1–13). Regardless of their ownership—public, private, or public–private—the organizations delivering or enabling healthcare provision are shaped by institutional burden and obligations that condition how they engage in entrepreneurship (El-Awad & Poček, 2023; Miller & French, 2016). Healthcare innovation processes are driven by both top-down policy and bottom-up entrepreneurial experimentation, creating distinct public good versus private incentive tensions (Miller et al., 2009; Miller & French, 2016). In fact, healthcare challenges many of the core assumptions that dominate the ecosystem literature around the specialness of actors, the nature of value-creating innovation, and the measurement of success. Acknowledging this gap is critical for improving ecosystem theory as well as enabling effective innovation in health systems. This also makes healthcare a useful lens for examining how EEs relate when organizational behaviour is not primarily driven by market logics alone.

Second, and related to the above, these organizations create value that exceeds profit making for the entrepreneur and the venture. Understanding their engagement with EEs therefore reveals how various entrepreneurial ecosystem dynamics unfold when innovations must place safety and public value at their heart (Miller et al., 2009). Third, some types of healthcare-related organizations possess access to resources that are of great importance for entrepreneurship, such as labs, the ability to test solutions, patient data, and professional expertise (Glover et al., 2024; Hicks & Katz, 1996; Miller & French, 2016), offering insights into EEs in relation to complex institutional ecosystem dynamics.

Against the above, this paper investigates the dynamics of healthcare-related actors within entrepreneurial ecosystems, focusing on how they are perceived and how they are currently integrated into entrepreneurial ecosystem research. To do so, the paper adopts an integrative literature review approach (Tranfield et al., 2003; Elsbach & van Knippenberg, 2020). Drawing on insights from the literature, it is found that entrepreneurial ecosystem research has a growing interest in these actors of the ecosystem, in line with previous findings (Zahlan et al., 2023). In addition, inductive coding of the healthcare and entrepreneurial ecosystem literature is conducted, leading to the identification of four themes related to healthcare in entrepreneurial ecosystems: healthcare sector entrepreneurs, hospitals as key actors, life sciences as anchors of the ecosystem, and institutional and resource dynamics related to healthcare and the ecosystem. These themes are subsequently discussed with respect to how the healthcare-related actor is engaged within the entrepreneurial ecosystems literature through mechanisms associated with hybrid logics and public value creation, as lenses capable of capturing both institutional complexity and non-market value creation. Finally, and building on this analysis, an integrative framework is proposed that positions healthcare-related actors according to their degree of hybridity and their role within entrepreneurial ecosystems.

Overall, the paper contributes to the growing body of knowledge on entrepreneurial ecosystems and their connections to healthcare system organizations, offering insights for researchers, policymakers, and practitioners seeking to foster innovation in this sector. By unpacking how healthcare-related organizations function as ecosystem actors, rather than merely as beneficiaries or contextual background, this study contributes to understanding that sector specificity matters in how ecosystems are positioned and enabled (Stam et al., 2025).

2. Theoretical framework

Entrepreneurial ecosystems are commonly defined as sets of interdependent actors that interact so as to support productive entrepreneurship within a particular territory (Brown & Mawson, 2023; Audretsch & Belitski, 2021; Content et al., 2019; Poček, 2022). Evolving EE research calls for opening ecosystem black boxes by examining internal mechanisms of configurations rather than overlooking sector specific elements (Stam et al., 2025). Prior work further shows that actors' ability to engage within and across ecosystem boundaries is shaped by institutional logics, and this institutional logics also relates to the type of value the ecosystem can drive (Urbano et al., 2010) and resource motivations it legitimizes; for example, entrepreneurs interact across ecosystems to access resources such as finance, knowledge, and customers, while logics oriented toward certain type of development can orient such interactions (Poček, 2022).

In the current literature, innovation and entrepreneurial ecosystems have been characterized by the presence of the hubs attracting human capital such as universities, and resources such as laboratories, support system organizations, as well as public private investment (Autio et al., 2018; Etkowitz & Leydesdorff, 2000). Another type of actor particularly relevant to facilitating the processes through which innovation or entrepreneurship could effectively tackle systemic challenges with respect to access to care, the creation of new health solutions and the very functioning of health systems (Mérindol et al., 2021; Mérindol & Versailles, 2024) are healthcare related organizations. In this process, healthcare innovation must contend with a landscape of stakeholders, patients, professionals, policymakers and providers. Indeed, digital health platforms, AI enabled diagnostics, or remote care solutions are created in accordance with public health needs, clinical norms, or system robustness (Lim et al., 2024).

In this section, the theoretical perspectives that can support explanation of how healthcare related organizations, interact with and within entrepreneurial ecosystems are outlined. Two streams of literature inform this framework: the first one related to the so-called hybrid organizational logics; secondly, the public value creation. Previous literature investigated the hybrid nature of organizations that assume multiple logics and that are positioned in between two forces, whether internally or externally oriented, and that face challenges due to this hybridity (Besharov & Smith, 2012; Greenwood et al., 2011; Pache & Santos, 2013). Healthcare related organizations typically embody multiple and often conflicting institutional logics when engaging in innovation (Hicks & Katz, 1996; Miller & French, 2016). This emergence can also be driven by external forces. For example, when public healthcare related organizations engage with private entrepreneurial actors, these inter-organizational relationships generate system level hybridity, where public and market logics coexist. This dual level perspective on hybridity poses challenges but also positions well healthcare related organizations to cope with complex environments, such as EEs (Kraatz & Block, 2008).

The second theoretical framework useful for the integrative literature review builds on the public value creation (Mazzucato, 2016; Mazzucato & Ryan-Collins, 2022; Mazzucato & Semieniuk, 2017; Moore, 1995, 2013, 2014) and creation of societal outcomes (Alford & Yates, 2014; Hartley et al., 2017) but also innovation that generates societal benefits and positive externalities (Orjuela-Ramirez et al., 2024). These theories contribute to understanding how organizations'

move in delivering value to its citizens, and as taking place across different institutional settings characterized by hierarchy, market, and hybrid logics within complex dynamics. Hybrid organizational logics, in this sense, have been connected to public value creation by viewing these dynamics as intermediaries that connect alliances and networks (Grandori & Soda, 1995; Gulati, 1998; Ménard, 2004). Agents of change in hybrid organizations mobilize resources across internal hierarchies and bridge them with external partnerships (Osborne, 2009; Rangan & Yoshino, 1996; Stoker, 1998). For the purpose of this paper, hybrid organizational logics are treated as mechanism through which public value is mobilized within entrepreneurial ecosystems, when it comes to healthcare innovation context.

3. Integrative review

An integrative literature review was conducted to synthesize existing research on the role of healthcare organizations within entrepreneurial ecosystems (Elsbach & van Knippenberg, 2020; Kraus et al., 2024; Sauer & Seuring, 2023; Tranfield et al., 2003). Integrative literature reviews are particularly suitable for linking conceptual and contextual levels to generate new theoretical insights and identify directions for future research (Elsbach & van Knippenberg, 2020; Patriotta, 2020; Tranfield et al., 2003). Hence, as a first step, by reviewing how healthcare related organizations have been discussed in relation to entrepreneurial ecosystem, the sectorial context is mapped, analyzed, and integrated into the broader EE literature. As a second step, a framework of integration is proposed, exploring future research directions. This approach is consistent with previous research that performed integrative literature reviews on for example business model innovation and innovation management, in which not only integrative frameworks were developed but also disconnected domains were theoretically enriched (Spieth, Schneider, Clauss, & Eichenberg, 2023). Insights are derived inductively from the synthesis of existing evidence rather than from a predefined theoretical framework (Elsbach & van Knippenberg, 2020). To ensure methodological transparency and rigor, each step of the process was documented and is reported below, describing the two main phases, data collection and data analysis, in accordance with Salvi et al. (2023).

As for the search engine, the Scopus database was selected because it is recognized as a good source of literature for this and similar kinds of methodologies (Salvi et al., 2023) and in order to be as inclusive as possible the search was complemented with the Google Scholar database. The search process is detailed below. First, a broad Scopus search was conducted using the keywords *entrepreneurial ecosystems*, *healthcare organizations*, and *healthcare* which yielded 122 results. The results were then limited to peer-reviewed journal articles published in English resulting in 92 articles. After the studies were manually reviewed for conceptual relevance to the intersection between entrepreneurial ecosystems and healthcare organizations 37 articles were retained. Second and to further expand the dataset a complementary search was carried out on Google Scholar using the same keywords *entrepreneurial ecosystems*, *healthcare*, *life science*, and *hospital*. This search identified two additional relevant studies that met the inclusion criteria. In total 39 conceptually relevant articles were included in the final dataset which formed the basis for the integrative analysis presented in this review.

3.1. Data analysis

Following data collection, the articles were analyzed inductively (Strauss & Corbin, 1990), allowing a research agenda and topics to emerge from the data. The analysis followed a coding approach inspired by inductive theme development, allowing themes to emerge directly from the data. This approach enabled a context-sensitive understanding of how healthcare organizations are related to entrepreneurial ecosystems, as perceived by the researchers. Each of the 39 selected articles was read in full, and key passages related to healthcare, healthcare actors, institutions, or entrepreneurial processes in the context of

healthcare within the discussed ecosystem were coded. The initial coding generated a set of descriptive codes, which in a subsequent step were reduced to a manageable number and grouped into themes based on similarities in concepts. The themes reflect the conceptual ways in which healthcare and entrepreneurial ecosystems meet in the reviewed literature: healthcare sector entrepreneurs; hospitals as key actors; life sciences as anchors in entrepreneurial ecosystems; and institutional and resource dynamics. In the following section, the field is first mapped, and then the themes that emerged from the data are presented.

4. Mapping the field

The review of the 39 articles demonstrates a growing scholarly interest in entrepreneurial ecosystems and healthcare. The earliest contributions were written relatively recently, in 2015, but most of the papers emerged even more recently: over 40 % of the articles were published in 2023 and 2024. This increase signals that the topic has become especially relevant during and after the Covid-19 pandemic.

In terms of publication outlets, more than one study from the dataset belongs to *The Journal of Technology Transfer*, *Small Business Economics*, *Technovation*, *Technological Forecasting and Social Change*, *Research Policy* and the *International Journal of Entrepreneurial Behavior & Research*. At the same time, the appearance of journals such as *Journal of Health Management and Informatics*, and *Journal of Business & Industrial Marketing* indicates a growing interest in sector-specific applications, in healthcare and technology-intensive industries.

Many of the recent articles take a case-based approach, focusing on specific geographic or regional contexts, such as ecosystems in Boston, New York, Vienna, Munich and Kazakhstan. A number of studies also explore how entrepreneurial ecosystems evolve in response to external shocks (e.g., Covid-19), institutional misalignments, or sustainability pressures, pointing to a broader interest in resilience, adaptability, and systemic support. Overall, the literature reflects a dynamic research field that is increasingly interdisciplinary. It draws from management, public policy, development studies, and health systems research.

4.1. Healthcare sector entrepreneurs

This theme gathers codes that are related to healthcare and entrepreneurial ecosystems in relation to entrepreneurs having ventures in the healthcare sector and working on improving access to healthcare, introducing care models, and addressing other health related challenges. For example, Lim et al. (2024) find that entrepreneurs can advance care delivery through technologically innovative solutions, and provide examples of these. Their analysis emphasizes that such innovations are often aligned with social or public health objectives rather than purely commercial goals. Gai et al. (2024) wrote about healthcare startups and public health outcomes within an entrepreneurial ecosystem setting. They find that the presence of such startups is associated with improvements in health indicators, such as those related to obesity rates. Another study also placed focus on measuring impacts of entrepreneurial startups products in healthcare. For instance, how startups contribute to measuring public health indicators or the development of inclusive innovations in HealthTech sector (Siqueira et al., 2023).

4.2. Hospitals as key actors

This theme highlights and describes the role of hospitals in entrepreneurial ecosystems. In the articles, hospitals are identified as actors or hubs for innovation and collaboration within the ecosystem (Abi Saad & Agogué, 2024). Hospitals provide infrastructure, expertise, and a legitimacy platform for entrepreneurial activities. For example, studies emphasize hospitals' role as opinion leaders within EEs. Tabas et al. (2022) find that university hospitals offer not only access to testing facilities but also the legitimacy that startups need to succeed once they test their products. They also provide feedback, such as through nurses

and healthcare professionals who test the products (Vavilov & Manning, 2024).

Hospitals are also discussed as having the capacity to foster collaboration within the ecosystem. James (2024) describes the Munich health sector EE, where hospitals act as nodes in networks that connect startups, venture capitalists, and universities. This interconnectedness facilitates the exchange of resources. The author further finds that hospitals serve as bridges between startups and other ecosystem actors, including regulatory bodies and financial institutions. Hospitals were furthermore identified as actors contributing to the internationalization of startups (James, 2024).

Finally, research found that hospitals are an important player in resilience and adaptability in EEs. Aman et al. (2021) for example examine how hospitals in Kazakhstan adapted to external shocks, such as healthcare policy changes, by partnering with startups and to continue delivering healthcare services. This highlights hospitals' dual role in maintaining services while engaging in innovation under conditions of uncertainty (Aman et al., 2021).

In summary, hospitals are identified as important actors within entrepreneurial ecosystems, serving as platforms for innovation, collaboration, and resilience while at the same time delivering care.

4.3. Life sciences as anchors in entrepreneurial ecosystems

The reviewed articles highlight the anchoring role of life sciences in entrepreneurial ecosystems and healthcare. Life sciences, with respect to healthcare and entrepreneurial ecosystems, are portrayed as a sector that attracts stakeholders, including universities, startups, policymakers, and investors, creating ecosystems characterized by a type of specialized innovation that contributes to the healthcare of a place (Clayton, Feldman, & Montmartin, 2024). However, for this to occur, they need to be supported by policy frameworks and intermediary activity (Huggins, Munday, Thompson, & Xu, 2024; Radinger-Peer et al., 2018).

The studies discuss the importance of life sciences in the ecosystem and its regional development. For example, Huggins et al. (2024) conceptualize life sciences as anchoring sectors for the emergence of ecosystem development and the creation of new paths. Radinger-Peer et al. (2018) find that Vienna's ecosystem leverages life sciences clusters to foster innovation and drive regional development. While they find that policy support is crucial for sector development, they also highlight tensions between specialization and openness in ecosystems with a life sciences presence.

Similarly, Ciccì and Ornston (2024) examine the role of intermediary organizations in semi-peripheral regions, showing how life sciences sectors act as bridges that connect startups to resources. O'Kane et al. (2021) also explore how technology transfer offices act as intermediaries and facilitate the commercialization of biomedical research by linking academic institutions with the market. Ciccì and Ornston (2024) note that strong governance and intermediary organizations are essential for maintaining the connectivity and specialization of these clusters.

4.4. Institutional and resource dynamics

This theme highlights the critical role of institutional frameworks and resource dynamics in the connection between entrepreneurial ecosystems and healthcare. Research stresses the importance of resource allocation in addressing the challenges of healthcare entrepreneurship within the ecosystem. These include access to policy support, regulatory guidance, funding, and intermediary organizations, which are particularly salient in healthcare contexts (Siqueira et al., 2023). For example, Méridol and Versailles (2024) explore the strategic role of sponsored and non-sponsored support organizations in facilitating access to critical technological resources for healthcare entrepreneurs. Their findings reveal that support organizations act as intermediaries and provide knowledge resources to entrepreneurs within regulated and

resource-intensive sectors.

The dynamics of healthcare-focused accelerators and incubators are another key finding across the articles. Oh et al. (2022) analyze the emergence of specialized accelerators in New York City's entrepreneurial ecosystem, highlighting how accelerators play a role in fostering health-related innovation. These accelerators provide support to healthcare startups, offering expertise, networking opportunities, and access to investors. The codes in this theme focus also on the interplay between governance, resource allocation, and institutions in shaping entrepreneurial ecosystems with respect to the healthcare provision. Universities play a key role in promoting the institutions that bridge health and life-science research with commercialization processes (Huang-Saad et al., 2017), while accelerators foster healthcare innovation by providing regulatory support (Oh et al., 2022). Siqueira et al. (2023) is another example of an article that found how ecosystems with strong institutional support are more effective in fostering HealthTech entrepreneurship.

5. Integrative framework proposal

So as to move towards an understanding of the mechanisms that enable healthcare organizations' participation and interaction with entrepreneurial ecosystems, an integrative framework is proposed. There seems to be three mechanisms that shape healthcare sector organizations' interaction within entrepreneurial ecosystems, and these are characterized by the negotiation of institutional logics, the mobilization of public value, and boundary negotiation among institutional and organizational domains (Miller & French, 2016; Vickers et al., 2017).

A first mechanism concerns the negotiation of institutional logics. Research on digital health and AI-based ventures shows that start-ups in this sector face regulatory and clinical requirements and challenges that shape their strategies, innovation, and the way in which they think about scaling up (Zahlan, 2025; Dhir et al., 2024). Studies on hospital-based innovation, for example, emphasize that hospitals must reconcile their mandates with needs to act as sites for testing and validating new technologies (James, 2024; Tabas et al., 2022). In regional entrepreneurial ecosystems, the coexistence of life science, industrial, and policy logics also shapes how research institutions and cluster actors engage with entrepreneurial activities (Ciccì & Ornston, 2024; Radinger-Peer et al., 2018). In all these cases, healthcare organizational participation in entrepreneurial ecosystems requires navigating and aligning multiple institutional expectations, consistent with the hybrid logics lens (Miller & French, 2016; Vickers et al., 2017).

A second mechanism concerns the mobilization of public value. Hospitals, together with other ecosystem actors such as universities, research institutes, and innovation support organizations, frequently contribute various resources that advance entrepreneurial activity and also orient this activity toward the public good, for example by providing reputational resources. Studies show also that hospitals provide essential forms of access and clinical validation for health technologies (James, 2024; Tabas et al., 2022). Further, intermediary organizations dedicated to digital health development mobilize actors and participate in implementation processes in ways that reflect public value-oriented missions, even when collaborating with private firms (Abi Saad et al., 2024; Méridol & Versailles, 2024).

A third mechanism concerns boundary negotiation between institutional and organizational domains. Research on innovation intermediaries in digital health shows that these organizations actively bridge clinical actors, policymakers, and entrepreneurs in settings that would otherwise remain fragmented and disconnected (Abi Saad et al., 2024). Research on crisis-driven entrepreneurship shows that external shocks such as the Covid-19 pandemic can temporarily shift or relax boundaries, requiring entrepreneurs and health organizations to adjust how they collaborate and exchange knowledge (Dhir et al., 2024). Across these contexts, boundary negotiation appears relevant for

entrepreneurial ecosystems involving healthcare organizations, shaping access, participation, and coordination (Vickers et al., 2017).

By integrating these mechanisms, roles that healthcare organizations assume in entrepreneurial ecosystems can be conceptualized (Table 1).

Health entrepreneurs primarily face the negotiation of institutional logics and constraints, and depend on central actors, such as hospitals, research institutions, or intermediaries to obtain access, legitimacy, and knowledge. Hospitals, on the other hand, involve higher degrees of hybridity because they operate at the intersection of clinical, public, and innovation-oriented dynamics, and they frequently contribute to entrepreneurial ecosystems through resource provision, legitimisation, and coordination (Miller & French, 2016). Life science organizations help link scientific activity with entrepreneurial opportunities and participate in regional ecosystem dynamics. Institutional and resource dynamics influence all these roles by shaping how easily public value can be mobilized and how institutional boundaries can be traversed.

These insights finally allow to propose a framework that positions healthcare sector organizations along two key dimensions emerging from the review: (1) the degree of hybridity defined as the extent to which organizations combine and reconcile public, professional, market, and scientific logics; and (2) the ecosystem role, defined as the degree of centrality and agency an organization assumes in shaping entrepreneurial ecosystem dynamics, such as coordination, control over resources.

Healthcare entrepreneurs, operating under institutional constraints (Glover et al., 2024; Dher et al., 2024), occupy a position characterized by lower hybridity and more peripheral participation, since their access to resources, and ecosystem networks is largely mediated by ecosystem support organizations rather than exercised through their direct coordination (Van Rijnsoever, 2022). Life science organizations, which enable translational activity between science and application, combine higher hybridity with more active ecosystem involvement. Hospitals appear as actors who together with specialized innovation support organizations, appear as highly hybrid and more central participants, coordinating partnerships, facilitating implementation, and aligning stakeholders in digital health ecosystems (Abi Saad et al., 2024; Mérimol & Versailles, 2024). This is in line with the research stream that suggests the research capacity of hospital to be central to innovation processes (Hicks & Katz, 1996; Hopkins, 2006, Lander & Atkinson-Grosjean, 2010) and in particular those of product development (Marceau, 2000; Morlacchi & Nelson, 2011; Nelson et al., 2011). Finally, institutional and resource dynamics cut across all quadrants, influencing how organizations shift or stabilize within the ecosystem. This integrative framework synthesizes the findings of the review and aligns them with the theoretical lenses to show how healthcare organizations engage with entrepreneurial ecosystems in ways shaped by institutional complexity, public value, and cross boundary coordination (Fig. 1).

6. Discussion and conclusion

In this paper the aim was to explore how healthcare organizations are positioned and conceptualized in the entrepreneurial ecosystem literature. While EEs have become a dominant concept in both research

Table 1
Roles assumed in EE.

Theme	Core insight	Typical actors	Key tension
Healthcare entrepreneurs	Peripheral, constrained	Startups	Legitimacy vs scalability
Hospitals	Central, hybrid	Public hospitals	Innovation vs care delivery
Life sciences	Structural anchors	Research institutes	Specialization vs openness
Institutions	Orchestrators	ESOs, policymakers	Enabling vs redirecting

and policy (Mason & Brown, 2014; Spigel, 2017), their intersection with healthcare has remained relatively underexplored, although the interest of researchers seems to be growing (Giblin et al., 2025; Leendertse et al., 2025), possibly due to the various types of crises our societies are facing (Mazzucato, 2016). Findings from this paper suggest that when healthcare is discussed, it appears through the lenses: entrepreneurial ventures working on healthcare problems, hospitals having the important role in innovation processes, life sciences industry anchoring ecosystems, and institutional and resource dynamics. Our finding that hospitals serve as platforms for testing and validating healthcare innovations while acting as hubs for collaboration, resilience, and also the internationalization of the ecosystem, is in line with previous literature by Miller & French, 2016. Healthcare, which is closely connected to life sciences industry, is also in this way related to entrepreneurial ecosystem, whereas life sciences are identified as critical for fostering innovation in healthcare (Radinger-Peer et al., 2018; O’Kane et al., 2021; Cici & Ornston, 2024).

This review contributes to the entrepreneurial ecosystem literature in three ways. First, it extends the ecosystem theory by showing how sector-specific actors appear and are perceived to be positioned in relation to the ecosystem structures (Glover et al., 2024; Mérimol & Versailles, 2024; Stam et al., 2025). Second, it advances the institutional dimension of entrepreneurial ecosystem theory by highlighting how the intersection between healthcare and entrepreneurial ecosystems is perceived as governed by institutional logics that governs dynamics related to healthcare entrepreneurship. This resonates with Miller and French (2016) and Lehoux, Daudelin, Williams-Jones, Denis, and Longo (2014), who show how healthcare organizations navigate competing healthcare and innovation logics, and with Glover et al. (2024), who conceptualize healthcare entrepreneurship as a hybrid and interdisciplinary domain. Finally, the paper introduces an integrative framework that explains not only who from this sector participates in entrepreneurial ecosystems, but why their roles differ based on underlying mechanisms of hybridity, public value mobilization, and boundary negotiation.

Future research agenda

Based on the analysis, several avenues for future research are proposed

Deepen theory on healthcare related institutions in EEs. Examine how institutional logics shape ecosystem development (Etzkowitz & Leydesdorff, 2000; Huang-Saad et al., 2017). Healthcare sector is embedded in complex institutional environments where public mandates (e.g., access and equity), science and regulation intersect with entrepreneurial goals (Glover et al., 2024; Mazzucato et al., 2019). This makes them fertile ground for exploring hybrid logics and institutional complexity. Researchers could investigate how different actors (e.g., hospitals, universities, accelerators, public agencies) interpret and negotiate these logics as they co-create the value in the ecosystem.

Explore patient-centred entrepreneurship. Future research could investigate also how healthcare startups and ventures place patients at the centre of innovation within entrepreneurial ecosystem contexts. While many ecosystems emphasize technology and high growth entrepreneurship that is scalable in the market, understanding how patient needs, experiences, and outcomes are actually built into the design and delivery of health solutions is a complex but a must do task. This is particularly relevant in digital health, where innovations like remote care, health monitoring apps, and telemedicine platforms are revolutionizing access to care.

Study the evolving role of hospitals within entrepreneurial ecosystems. Future research should analyze how hospitals transition into innovation hubs, especially in contexts where they are partnering with startups, acting as testing grounds for new health technologies, or leading cross-sector collaborations. It would be valuable to understand how hospitals navigate these new roles while still maintaining their core mission of patient care within entrepreneurial ecosystems.

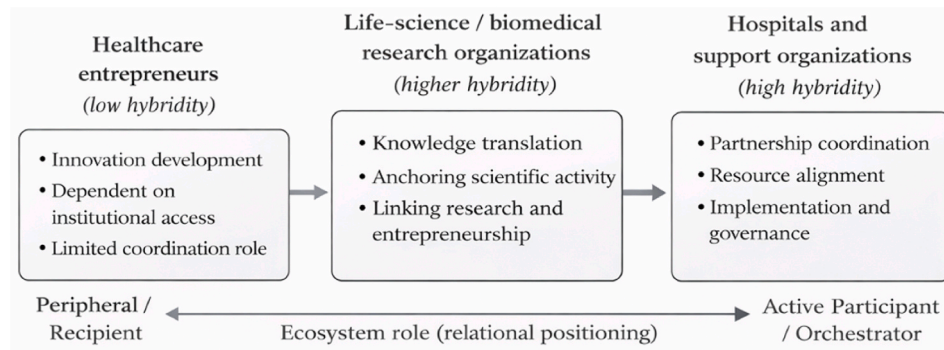


Fig. 1. Relational positioning and hybridity of healthcare actors within entrepreneurial ecosystems.

7. Limitations

This study has limitations that should be acknowledged. First, the research topic tackled is highly interdisciplinary; hence it is possible that insights exist in other fields and that these were not captured here. Second, the analysis is based on peer-reviewed academic publications written in English, which may limit the literature written in other languages. Third, while the inductive coding approach allowed themes to emerge from the data, the interpretation of these themes, is necessarily shaped by the authors’ perspectives. Different researchers may have clustered the articles differently or emphasized other aspects of the

ecosystem–healthcare relationship. Finally, this review provides a conceptual mapping and thematic synthesis rather than empirical testing or theory-building in the formal sense. It should be seen as a starting point for more case-based, or longitudinal research that can examine how the roles of healthcare actors in entrepreneurial ecosystems evolve over time and in different contexts.

Declaration of competing interest

No Declaration of competing interests.

Annex 1

Table 1
List of Included Papers for the Integrative Literature Review

Author(s)	Year	Title	Journal/Source
van Rijnsvoever, F. J.	2022	Intermediaries for the greater good: How entrepreneurial support organizations can embed constrained sustainable development startups in entrepreneurial ecosystems	<i>Research Policy</i>
Korber, S., Swail, J., & Krishnasamy, R.	2022	Endure, escape or engage: How and when misaligned institutional logics and entrepreneurial agency contribute to the maturing of entrepreneurial ecosystems	<i>Entrepreneurship & Regional Development</i>
Aman, R., Ahokangas, P., & Zhang, X.	2021	Migrant women entrepreneurs and entrepreneurial ecosystems during an external shock: A case study from the healthcare sector in Kazakhstan	<i>Asian Business & Management</i>
Lim, W. M., Ciasullo, M. V., Escobar, O., & Kumar, S.	2024	Healthcare entrepreneurship: Current trends and future directions	<i>International Journal of Entrepreneurial Behavior & Research</i>
Gai, Y., Crocker, A., Brush, C., & Glover, W. J.	2024	How healthcare entrepreneurship enhances ecosystem outcomes: The relationship between venture capital-funded start-ups and county-level health	<i>International Journal of Entrepreneurial Behavior & Research</i>
Kahrizi, O., Naderi, N., Rezaei, B., & Olya, H.	2021	Identifying and prioritizing components of the medical and healthcare tourism entrepreneurship ecosystem	<i>Journal of Health Management and Informatics</i>
Cowell, M., Lyon-Hill, S., & Tate, S.	2018	It takes all kinds: Understanding diverse entrepreneurial ecosystems	<i>Journal of Enterprising Communities</i>
Mérindol, V., & Versailles, D. W.	2024	Resource allocation in healthcare entrepreneurial ecosystems: The strategic role of entrepreneurial support organizations	<i>International Journal of Entrepreneurial Behavior & Research</i>
O’Kane, C., Cunningham, J. A., Menter, M., & Walton, S.	2021	The brokering role of technology transfer offices within entrepreneurial ecosystems: An investigation of macro–meso–micro factors	<i>The Journal of Technology Transfer</i>
Yi, G., & Uyerra, E.	2018	Process mechanisms for academic entrepreneurial ecosystems: Insights from a case study in China	<i>Science, Technology and Society</i>
Hannigan, T. R., Briggs, A. R., Valadao, R., Seidel, M.-D. L., & Jennings, P. D.	2022	A new tool for policymakers: Mapping cultural possibilities in an emerging AI entrepreneurial ecosystem	<i>Research Policy</i>
Huang-Saad, A., Fay, J., & Sheridan, L.	2017	Closing the divide: Accelerating technology commercialization by catalyzing the university entrepreneurial ecosystem with I-Corps™	<i>The Journal of Technology Transfer</i>
Oh, J., Clayton, P., & Feldman, M.	2022	Accelerator niches in an emerging entrepreneurial ecosystem: New York City	<i>Local Economy</i>
Cicci, A., & Ornston, D.	2024	Semi-peripheral pathways to high-technology markets: How organizational origins shape entrepreneurial ecosystems	<i>Studies in Comparative International Development</i>
Radinger-Peer, V., Sedlacek, S., & Goldstein, H.	2018	The path-dependent evolution of the entrepreneurial ecosystem (EE) – dynamics and region-specific assets of the case of Vienna (Austria)	<i>European Planning Studies</i>
Huggins, R., Munday, M., Thompson, P., & Xu, C.	2023	Entrepreneurial ecosystems, agency and regional development: Emergence and new path creation in the Cardiff city region	<i>Local Economy</i>
Vavilov, S., & Manning, S.	2024	How entrepreneurial ecosystems support the formation of international base-of-the-pyramid ventures: The case of Boston	<i>Technological Forecasting and Social Change</i>
Filippelli, S., Troise, C., Bigliardi, B., & Corvello, V.	2025	Examining the influence of entrepreneurial ecosystem pressure on the economic, social, and environmental orientation of startups	<i>Technological Forecasting and Social Change</i>

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Table 1 (continued)

Author(s)	Year	Title	Journal/Source
Siqueira, E. H. S., Fischer, B. B., Bin, A., & Kickul, J.	2023	Entrepreneurial ecosystems' readiness towards knowledge-intensive sustainable entrepreneurship: Evidence from Brazil	<i>Technovation</i>
Tabas, A., Nätti, S., & Komulainen, H.	2022	Orchestrating in the entrepreneurial ecosystem – Orchestrator roles and role-specific capabilities in the regional health technology ecosystem	<i>Journal of Business & Industrial Marketing</i>
Tabas, A., & Komulainen, H.	2020	The role of entrepreneurial ecosystem in the internationalization of high growth SMEs in health technology business	<i>Journal of Emerging Trends in Marketing and Management</i>
James, A. H.	2024	The Munich entrepreneurial ecosystem in the health sector: Current state and improvement areas	<i>Junior Management Science</i>
Sang-Min Park, Nicholas S. Vonortas	2024	Biomedical Entrepreneurship in U.S. Regions	The Journal of Technology Transfer
Daniel Prokop, Piers Thompson	2023	Defining Networks in Entrepreneurial Ecosystems: The Openness of Ecosystems	<i>Small Business Economics</i>
Mary Donegan	2019	Bridging Commercialization and Redevelopment: Jurisdictions and University Policy Development	<i>Urban Studies</i>
James A. Cunningham, Paul O'Reilly	2018	Macro, Meso and Micro Perspectives of Technology Transfer	The Journal of Technology Transfer
Raysa Geaquinto Rocha, Arminda do Paço, Helena Alves	2023	Entrepreneurship Education for Non-Business Students: A Social Learning Perspective	The International Journal of Management Education
Calderón-Hernández, G., Jiménez-Zapata, Y.A., Serna-Gomez, H.M.	2020	Barriers to University Spin-Off Creation in an Emerging Context: An Institutional Theory of Organizations Approach	<i>Minerva</i>
Darius Ornston, Lorena Camargo	2024	The Large Firm Dilemma: Anchor Embeddedness and High-Technology Competition	<i>Socio-Economic Review</i>
Clayton, P., Feldman, M., Montmartin, B.	2024	Entrepreneurial Finance and Regional Ecosystem Emergence	<i>Small Business Economics</i>
Himanshu Shekhar, Krishna Satyanarayana, Deepak Chandrashekar	2023	Role and Contributions of an Incubator in Academic Intrapreneurship – An Examination	<i>Technovation</i>
Maryann Feldman, Nichola Lowe	2015	Triangulating Regional Economies: Realizing the Promise of Digital Data	<i>Research Policy</i>
Park, S.M., Vonortas, N.S.	2023	Translational Research: From Basic Research to Regional Biomedical Entrepreneurship	<i>Small Business Economics</i>
A Zahlan	2025	Strategic resource mobilization for AI entrepreneurship in healthcare: Qualitative insights from startup founders	<i>Technovation</i>
N Jamali, SMH Emami, S Vatankhah, MR Maleki	2025	What are the challenges and barriers for the entrepreneurship ecosystem in the Iranian health system?: A qualitative research	<i>Journal of Education and Health Promotion</i>
A Pesqueira, MJ Sousa, R Pereira	2025	Individual dynamic capabilities and artificial intelligence in health operations: Exploration of innovation diffusion	<i>Intelligence-Based Medicine</i>
A Dhir, N Meenakshi, R Nawaz, P Kaur	2024	How do we pivot? Facilitators, inhibitors, and strategies of tech healthcare startups before, during, and after a crisis	<i>Technological Forecasting and Social Change</i>
E Abi Saad, M Agogue	2024	Living Labs in science-industry collaborations: Roles, design, and application patterns	<i>Technovation</i>
E Trincanato, E Vagnoni	2024	Beyond the land of the living death: early-stage transformational entrepreneurs in digital healthcare as liminality navigator	<i>International Journal of Entrepreneurial Behaviour and Research</i>

Data availability

Data will be made available on request.

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